DOCUMENT RESUME

ED 163 275 08 CE 018 962

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TITLE Common Core Curriculum for Vocational Education. Category E: Curriculum Design in Vocational Education. E-3: Instructional Strategies.
INSTITUTION California State Univ., Fresno.
SPONS AGENCY Bureau of Occupational and Adult Education (DHEW/OE), Washington, D.C.; California State Dept. of Education, Sacramento. Vocational Education Instruction Services.
PUB DATE 78
NOTE 29p.; Not available in hard copy due to light print in original document. For related documents see CE 018 935-971
AVAILABLE FROM Director, School of Family Studies and Consumer Sciences, San Diego State University, San Diego, California 92182

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS *Core Curriculum; Higher Education; Learning Activities; Learning Modules; Performance Based Teacher Education; *Teacher Education Curriculum; *Teaching Methods; *Vocational Education

ABSTRACT

This module on instructional strategies is one of a set of three on curriculum design in vocational education and is part of a larger series of thirty-four modules intended as a core curriculum for use in the professional preparation of vocational educators in the areas of agricultural, business, home economics, and industrial education. Following the module objective and overview and a bibliography of suggested resource materials (readings) for the entire module, five lessons are presented: (1) determining what is meant by instructional strategies; (2) selecting instructional strategies for use in the learning process; (3) evaluating instruction and instructional strategies for their effectiveness; (4) employing a variety of instructional strategies in vocational education; and (5) examining unique instructional strategies being used in vocational education. Each lesson contains the objective, overview, a list of suggested learning activities, and a list of suggested resources (readings). Concluding the module is a pre/posttest and an answer key. (The modules have been field tested in various educational settings, including bachelor and masters degree programs, and are considered adaptable to many instructional styles and student entry levels. CE 018 935-937 contain working papers and other materials used in the development of the module series.) (JH)

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ED163275

Common Core Curriculum
for Vocational Education

E-3

INSTRUCTIONAL STRATEGIES

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Category E:

CURRICULUM DESIGN IN VOCATIONAL EDUCATION

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1978

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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ABOUT THIS MODULAR CURRICULUM

This module is one of a series of 34 modules intended for use in the professional preparation of vocational educators in the vocational education service areas of agricultural, business, home economics, and industrial education. The curriculum can be adapted to various styles of instruction and to various entry-levels of students.

It is recommended that an instructor planning to use these modules review each category to determine if any modification is needed in the objectives and suggested activities so that they conform with local institutional policies and/or vocational education programs. It is also suggested that resources and activities be identified for the specific entry-level of the student to be served.

The activities listed are suggested. The use of any other activity or reading reference which the instructor believes would help to accomplish the objectives of that lesson is encouraged. The choice of the teacher to use the entire module, either through group reports or individualized assignment, will be related to individual student competency requirements.

Since many modules strongly recommend the use of local administrative personnel and community resources, it is suggested that all site visitations and requests for assistance in the community be coordinated by or cleared through the instructor. The instructor may wish to distribute these tasks among the student group and across the community with the class report system being used to disseminate the information gathered.

These modules have been field tested in various settings. They have been used with students working toward a bachelor's or master's degree and with students seeking the designated subjects credential in Californica. Some modules were tested through student independent study, others as part of total class assignment, and still others as an alternate activity. Workshop participants examined the materials in terms of content, activities, and resources. The adaptability of this curriculum is one of its strengths.

The materials could not have been completed without the participation and contribution of many individuals. Chief among these persons were the module writers, workshop participants, field-test instructor, and students. Conference presentors and evaluators also contributed to this project. Proceedings of the workshop are available upon request.

If we can provide you with information or help in using this curriculum, please feel free to contact us.

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COMMON CORE CURRICULUM

FOR

VOCATIONAL EDUCATION

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This work was developed under a contract with the California State Department of Education under the provisions of Public Law 90-5-76, EPDA, Part F. However, the opinions expressed herein do not necessarily reflect the position or policy of the State Department of Education and no official endorsement by the State Department of Education should be inferred.

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INSTRUCTIONAL STRATEGIES

Module Objective

Upon the completion of this module, the student will have identified what is meant by "instructional strategies" and have examined their relationship to the learning process with special application to vocational education. Specifically, upon satisfactory completion of the module, the student will be able to do the following:

(1) Determine what is meant by "instructional strategies."

(2) Select instructional strategies appropriate for the learning process.

(3) Evaluate instruction and instructional strategies for their effectiveness.

(4) Employ a variety of instructional strategies in vocational education.

(5) Identify unique instructional strategies being used in vocational education.

Module Overview

The purpose of curriculum planning and design is to provide opportunities for a learner or a group of learners to participate actively in the process of meeting a defined objective or objectives. For example, if the objective of a particular program is to develop persons to be vocationally competent as ornamental horticulturists, then the curriculum must be designed to provide for learning experiences to help these persons become vocationally competent. The process that provides for the learning is the "instructional strategy."

Instructional strategies are the means by which a curriculum plan or design is implemented. This process is an integrated one for if there were no

curriculum plan, there would be no need for instructional strategies; conversely, if there were no instructional strategies, then a curriculum plan could not be carried out.

Instructional strategies do not have to be teacher instigated; they might be student (learner) instigated. The strategies might be implemented through cooperative efforts of both the teacher and student. In most instances, it will be the teacher, however, who actively endeavors to provide for instructional strategies which will help the student meet the objectives of the program under which she/he is learning.

Instructional strategies are sometimes referred to as instructional plans. Whether it is a strategy or a plan is not important. What is important is that the process is a procedure which is provided for a learner to use in accomplishing certain objectives.

This module has been arranged so that a person studying curriculum design can develop an appreciation for "instructional strategies" and see the importance in their relationship to the learning process. Furthermore, the module focuses attention on the specific application of instructional strategies to vocational education. The lessons which were designed to meet these ends are as follows:

(1) Determining what is meant by "instructional strategies."

(2) Selecting the instructional strategies for use in the learning process.

(3) Evaluating instruction and instructional strategies for their effectiveness.

(4) Employing a variety of instructional strategies in vocational education.

(5) Examining unique instructional strategies being used in vocational education.

Resource Materials for Completing the Activities in this Module

Bloom, Benjamin S., J. Thomas Hastings, and Geroge F. Madaus, Handbook on Formative and Summative Evaluation of Student Learning. New York: McGraw-Hill, 1971.

Butler, F. Coit. Instructional Systems Development for Vocational and Technical Training. Englewood Cliffs, New Jersey: Educational Technology Publications, 1972.

Calhoun, Calfrey C. and Alton V. Finch. Vocational and Career Education: Concepts and Operations. Belmont, California: Wadsworth Publishing Company, 1976.

Craven, Linda. "How to Reach That Odd Learner," American Vocational Journal. September, 1976, 54-57.

Davies, Ivor K. The Management of Learning. London: McGraw-Hill, 1971.

Eads, Freeman D. and Douglas H. Gill. "Prescriptive Teaching for Handicapped Students," American Vocational Journal. November, 1975, 52-56.

Gerhard, Muriel. Effective Teaching Strategies with the Behavioral Outcomes Approach. West Nyack, New York: Parker Publishing Company, 1971.

Haddan, Eugene E. Evolving Instruction. New York: Macmillan, 1970.

Hudgins, Bryce B. The Instructional Process. Chicago: Rand-McNally, 1971.

Jones, Charles I. "Unshackling the Learner," American Vocational Journal. November, 1975, 32-33.

Law, Gordon F. "Teaching Strategies for Individual Learning," The Individual and His Education. (Second Yearbook) ed. Alfred H. Krebs. Washington, D. C.: American Vocational Association, 1972, 163-173.

Milliken, Mary Elizabeth. "Toward Effective Instruction for Every Learner," American Vocational Journal. November, 1975, 30-31.

Rose, Homer C. The Instructor and His Job. Chicago: American Technical Society, 1966.

Saylor, J. Galen and William M. Alexander. Planning Curriculum for Schools. San Francisco: Holt, Rinehart, and Winston, 1974.

Stones, E. Learning and Teaching. A Programmed Introduction. John Wiley and Sons, 1968.

Tindall, Lloyd W. "Breaking Down the Barriers for Disabled Learners," American Vocational Journal. November, 1975, 47-49.

Weber, Larry and Stephen Lucas. "Evaluating Student Progress," The Individual and His Education. (Second Yearbook) ed. Alfred H. Krebs. Washington, D. C.: American Vocational Association, 1972, 242-256.

Williams, Robert T., David W. Smith, and Mitchell A. Kaman. "Dealing With Learning Difficulties Before They Become Liabilities," American Vocational Journal. December, 1975, 50-53.

INSTRUCTIONAL STRATEGIES

Lesson One: Determining What is Meant by "Instructional Strategies"

Objective

Upon the satisfactory completion of this lesson, the student will be able to define what is meant by "instructional strategies."

Overview

To define "instructional strategies" in precise terms is a difficult task. By the very nature of the learning process itself, we know that learning takes place in a great variety of ways--there is no one single process which produces learning. New means and media of learning are constantly being developed. This is to say, then, that there are existing instructional strategies that can be recognized as being effective ones; there are others which are just being developed; and there are still others which will be appearing in the future.

This lesson will look particularly at those instructional strategies which have been tried and tested as being appropriate strategies for learning. Throughout the lesson, however, be aware that the instructional strategies being identified are not to be thought of as being all-inclusive in their scope, leaving no room for other strategies.

Suggested Activities

Level One (The students in the Designated Subject Credential component of "Instructional Techniques" and students in the Master of Arts in Vocational Education Program must complete all the activities described under Level One.)

Before writing any of the assigned papers in this lesson, you should check with your instructor who may wish to discuss the topic with you or may want you to have a discussion with other members of the class on an individual or a group basis.

(1) Read Chapter 6, "Planning Curriculum Implementation: Instruction," Planning Curriculum for Schools, by Saylor and Alexander. Holt, Rinehart and Winston, Inc., 1974, pp. 245-274.

(2) Using the reading in Activitiy No. 1 as the source of reference, create an outline which identifies modes of instruction for these

three categories: (1) Structured class situations, (2) Free-form and nonclass situations, and (3) Unofficial instructional program situations.

Level Two (Students in the Master of Arts in Vocational Education program must complete Activity No. 1 and either Activity No. 2 or No. 3.)

(1) Read Chapter 5, "The Instructional Systems Concept," Instructional Systems Development for Vocational and Technical Training, by F. Coit Butler, Educational Technology Publications, Inc., Englewood Cliffs, New Jersey, 1972, pp. 41-52.

(2) Using the reading in Activity No. 1 as the source of reference, write your definition of an "instructional strategy." Then outline and briefly describe the elements of an instructional strategy (referred to as an instructional system in the reading material).

(3) Describe in writing how the essential elements of an "instructional strategy" (referred to as an instructional system in the reading material in Activity No. 1) are applicable to the vocational area of your specialty.

Upon successful completion of assigned activity, proceed to Lesson 2.

INSTRUCTIONAL STRATEGIES

Lesson Two: Selecting the Instructional Strategies for Use in the Learning Process

Objective

Upon the satisfactory completion of this lesson, the student will be able to select instructional strategies to use for various learning processes.

Overview

For most learning situations, there is no tried-and-true method to use for presenting the information to be learned. In other words, the instructional strategy chosen to facilitate learning is not selected because that strategy exhibits the way of approaching a learning situation. The instructional strategy chosen depends upon many variables such as the mental capacity of the learner, the environment in which the learning takes place, the time frame in which learning needs to take place, and the amount of money that can be expended on the learning process.

The instructional strategy selected for use in the learning process does not guarantee learning. The strategy is merely a method of making information available to the learner. When the learning does take place, it is because of what the learner does with the information and not because of the particular strategy used to make the information available. Of course, certain strategies lend themselves to making information more readily available and for that reason are more desirable than others. Usually the best instructional strategies are those which allow the learner to respond readily to the information and to interact with it.

This module will involve reading information about instructional strategies and then relating those strategies to appropriate learning situations.

Suggested Activities

Level One (The students in the Designated Subject Credential component of "Instructional Techniques" and students in the Master of Arts in Vocational Education Program must complete all the activities described under Level One.)

Before writing any of the assigned papers in this lesson, you should check with your instructor who may wish to discuss the topic with you or may want you to have a discussion with other members of the class on an individual or a group basis.

(1) Read Chapter 12, "Selecting Instructional Media," Instructional Systems Development for Vocational and Technical Training, by

F. Coit Butler, Educational Technology Publications, Inc., Englewood Cliffs, New Jersey, 1972, pp. 127-137.

(2) Read Chapter 1, "Analyzing the Teaching-Thinking-Learning Process," Effective Teaching Strategies with the Behavioral Outcomes Approach, by Muriel Gerhard, Parker Publishing Company, Inc., West Nyack, New York, 1972, pp. 17-27.

(3) Read Chapter 2, "Classroom Learning," The Instructional Process, by Bryce B. Hudgins, Rand McNally and Company, Chicago, 1971, pp. 26-47.

(4) With the reading in Activities No. 1-3 as sources of reference, write a short paper (no more than two pages double-spaced) on "Factors Which Influence and Determine the Selection of Instructional Strategies in the Learning Process."

Level Two (Students in the Master of Arts in Vocational Education program must complete all the activities described under Level Two.)

(1) Read "Bases for Selecting Instructional Modes," Planning Curriculum for Schools, by Saylor and Alexander. Holt, Rinehart and Winston, Inc., 1974, pp. 274-283.

(2) Complete the programmed learning section on "The Teacher and the Process of Instruction," Learning and Teaching, by E. Stones, John Wiley and Sons, 1968, pp. 96-111.

(3) On the basis of the reading completed in Activity No. 1 and the programmed learning completed in Activity No. 2, relate to the instructor and/or class (whichever is appropriate) your impressions of how learning theory and the selection of instructional strategies are related.

Upon successful completion of assigned activities, proceed to Lesson 3.

INSTRUCTIONAL STRATEGIES

Lesson Three: Evaluating Instruction and Instructional Strategies for their Effectiveness

Objective

Upon the satisfactory completion of this lesson, the student will be able to state methods and procedures which can be used in evaluating instruction and instructional strategies.

Overview

To evaluate the effectiveness of instruction and instructional strategies is not an easy task. In the first place, the learning process usually involves the use of a number of instructional strategies to accomplish its particular objective. Therefore, if a learning task has been accomplished, it is difficult to assign its accomplishment to a certain instructional element or an instructional strategy.

In addition, if a learning task is accomplished, it cannot be assumed that it was successful because of the instructional strategy used. The accomplishment may have been due to motivation on the part of the student, to previously learned information, to influences outside the learning setting (such as television), or to a student's interaction with a peer group.

Evaluating instruction and instructional strategies, then, by determining whether a task has been learned or an objective accomplished is based on shaky premises. The very nature of instruction and instructional strategies makes them difficult to evaluate, but such a fact should not preclude attempts at evaluating instruction and instructional strategies.

This lesson will examine procedures for evaluating instruction and instructional strategies.

Suggested Activities

Level One (The students in the Designated Subject Credential component of "Instructional Techniques" and students in the Master of Arts in Vocational Education Program must complete all the activities described under Level One.)

Before writing any of the assigned papers in this lesson, you should check with your instructor who may wish to discuss the topic with you or may want you to have a discussion with other members of the class on an individual or a group basis.

(1) Read pp. 332-346, "Evaluating Instruction," Planning Curriculum for Schools, by Saylor and Alexander. Holt, Rinehart and Winston, Inc., 1974.

(2) Read pp. 242-256, "Evaluating Student Progress," by Larry Weber and Stephen Lucas in Second Yearbook of the American Vocational Association, 1972, edited by Alfred H. Krebs.

(3) Using the reading in Activity No. 1 and No. 2 as background material, write a paper (no more than two pages double-spaced) in which you describe what you believe to be sound methods and procedures for evaluating instruction and instructional strategies in the vocational education subject of your choice.

Level Two (Students in the Master of Arts in Vocational Education program must complete either Activity No. 1 or No. 2.)

(1) Extend your involvement with evaluating instruction and instructional strategies by reading selected portions of your choice of the following reference:

> Benjamin S. Bloom, J. Thomas Hastings, and George F. Madaus, Handbook on Formative and Summative Evaluation of Student Learning. New York: McGraw-Hill Book Company, Inc., 1971.

Prepare a written summary (no more than two pages double-spaced of the views you obtained from reading selections of this reference.

(2) Using references that are available to you in the library, find information on "criterion-referenced measurement." On the basis of what you read, prepare a written summary (no more than two pages double-spaced) on the meaning and relevance of "criterion-referenced measurement."

Upon successful completion of assigned activities, proceed to Lesson 4.

INSTRUCTIONAL STRATEGIES

Lesson Four: Employing a Variety of Instructional Strategies in Vocational Education

Objective

Upon the satisfactory completion of this lesson, the student will be able to identify a variety (at least six) of instructional strategies which would be appropriate for directing learning in vocational education.

In addition, the student will be able to describe how to apply the instructional strategies identified in 4a to classroom situations in a particular area of vocational emphasis (agriculture, business, home economics, or industrial education).

Overview

In selecting instructional strategies for directing learning, the teacher too often falls into the pattern of using one of the two following procedures:

(1) Selecting the same instructional strategy to use for every learning activity.

(2) Selecting an instructional strategy that is "different" without regard to how well it provides for a method of making learning available to the learner.

A specific example of using the same instructional strategy over and over again might be the use of programmed learning where the student has no other learning activity than the programmed instruction material in a textbook or on a programmed learning machine.

An example of the second procedure of using a strategy just because it is "different" might be the misuse of films--having a film shown just because it is a film although it may have no relevance to the learning situation.

Both of these examples, of course, are extreme. But they are not to be discounted because such situations are not fictitious; they do occur. Most teaching, however, falls on ground that lies in between these two extremes. The purpose of this lesson is to examine that "in-between" ground in employing a variety of instructional strategies in vocational education in such a way that they satisfy the objective of making learning available to the learner.

Suggested Activities

Level One (The students in the Designated Subject Credential component of "Instructional Techniques" and students in the Master of Arts

in Vocational Education Program must complete all the activities described under Level One.)

Before writing any of the assigned papers in this lesson, you should check with your instructor who may wish to discuss the topic with you or may want you to have a discussion with other members of the class on an individual or a group basis.

(1) Read pp. 157-178, "Identifying an Appropriate Teaching Strategy," The Management of Learning, by Ivor K. Davies. London: McGraw-Hill Publishing Company Limited, 1971.

(2) With the reading assigned in Activity No. 1 as a background, prepare a paper which organized instructional strategies into "Autocratic Styles" (Theory X) and "Permissive Styles" (Theory Y). Under each style detail the instructional strategies which are unique to that style; give the advantages and disadvantages associated with the use of each style. In addition, apply each instructional strategy to a specific classroom application in the vocational area of your choice.

Level Two (Students in the Master of Arts in Vocational Education program must complete Activity No. 3; they may choose between doing Activity No. 1 or No. 2.)

(1) Read pp. 223-265, "Technology and Teaching," Evolving Instruction, by Eugene E. Haddan. New York: The Macmillan Company, 1970.

(2) Read pp. 164-201, "Training Aids and Devices," The Instructor and His Job, by Homer C. Rose, American Technical Society, Chicago, 1966.

(3) With the reading in Activity No. 1 or No. 2 as background, develop a paper (no more than two pages double-spaced) on the topic: "The Effective Use of Multimedia as an Instructional Strategy in Vocational Education."

(4) Present an instructional strategy before classmates or in an educational setting in community.

Upon successful completion of assigned activities, proceed to Lesson 5.

INSTRUCTIONAL STRATEGIES

Lesson Five: Examining Unique Instructional Strategies Being Used in Vocational Education

Objective

Upon the satisfactory completion of this lesson, the student will be able to describe unique instructional strategies which have been used to make learning available to a vocational education student.

Overview

Although instructional strategies are mechanisms by which learning can be made available, they are not very effective if they are not brought into action at the right time, in the right place, and with the right persons. Most often, the major responsibility for identifying the appropriate instructional strategy rests upon the teacher.

In this lesson, an examination will be made of the teacher's role in identifying unique instructional strategies. For example, the teacher has found an increasing need for instructional strategies which place an emphasis on individualized learning. What are these strategies like, and how does the vocational education teacher deal with them? Information which can provide answers to those questions may be found in the reading material listed under the Activities of this lesson.

What kind of strategies can the vocational education teacher use with the student who finds learning difficult? What sorts of strategies might be used with handicapped learners? There are no "set" answers which miraculously solve the situations posed, but there are some unique strategies which vocational educators have found to be helpful to use along with other instructional strategies. These unique strategies will be examined in this lesson with the purpose in mind of demonstrating their applicability to vocational education.

Suggested Activities

Level One (The students in the Designated Subject Credential component of "Instructional Techniques" and students in the Master of Arts in Vocational Education Program must complete all the activities described under Level One.)

Before writing any of the assigned papers in this lesson, you should check with your instructor who may wish to discuss the topic with you or may want you to have a discussion with other members of the class on an individual or a group basis.

(1) Read pp. 163-173, "Teaching Strategies for Individual Learning," by Gordon F. Law in The Individual and His Education, the Second Yearbook of the American Vocational Association, 1972.

(2) Read the following articles from the November, 1975, issue of the American Vocational Journal:

"Toward Effective Instruction for Every Learner," by Mary Elizabeth Milliken, pp. 30-31.

"Unshackling the Learner," by Charles I. Jones, pp. 32-33.

"Breaking Down the Barriers for Disabled Learners," by Lloyd W. Tindall, pp. 47-49.

"Prescriptive Teaching for Handicapped Students," by Freeman D. Eads and Douglas H. Gill, pp. 52-56.

(3) Read the following chapters from The Management of Learning by Ivor K. Davies. London: McGraw-Hill Publishing Company, Limited, 1971:

"Teaching Older Students," pp. 183-192.

"Teaching Psychomotor Skills," pp. 195-202.

(4) With the reading material in Activity No. 1, No. 2 and No. 3 as background, be prepared to discuss with the class and/or your instructor the appropriateness and applicability to vocational education of the unique instructional strategies described.

Level Two (Students in the Master of Arts in Vocational Education program must complete all of the activities described under Level Two.)

(1) Read "How to Reach That Odd Learner," by Linda Craven in the September 1976 issue of the American Vocational Journal, pp. 54-57.

(2) Read "Dealing With Learning Difficulties Before They Become Liabilities," by Robert T. Williams, David W. Smith, and Mitchell A. Kaman in the December 1975 issue of the American Vocational Journal, pp. 50-53.

(3) On the basis of the reading accomplished in the assigned activities in Level One and Level Two of this lesson, write a paper (no more than two pages double-spaced) on the topic, "Vocational Education Lends Itself to Unique Instructional Strategies."

Upon completion of the assigned activities in this module, you should be ready to take the Module Posttest. See your instructor for directions and measurement criteria.

INSTRUCTIONAL STRATEGIES

MODULE PRE/POSTTEST

Student_____

Instructor_____

Date_____

Student: This pr posttest is designed to assess your knowledge of instructional strategies. Since this module is an individualized and competency-based learning device, you will need to study only those lessons that are presented on the basis of your response to this test.

1. Define what is meant by the term "instructional strategy."

2. Identify modes of instruction which can be classified under each of the following categories: (Include at least three modes in each situation.)

   a. Structured class situations

   b. Free-form and nonclass situations

   c. Unofficial instructional program situations

3. Describe those factors which influence and determine the selection of instructional strategies in the learning process. (Describe at least three factors.)

Pre/posttest (continued)

4. Define what is meant by the term "criterion-referenced measurement."

   Cite a specific example of a "criterion-referenced measurement" as it may be used in some phase of vocational education.

5. Describe a sound procedure for evaluating instruction and instructional strategies in vocational education subjects.

6. Identify six instructional strategies which would provide for appropriate directed learning in vocational education subjects. In addition to identifying the strategies, describe how each strategy might be applied in a classroom situation in your particular area of vocational education emphasis.

   a.

   b.

   c.

   d.

   e.

Pre/posttest (continued)

f.

7. Relate how vocational education instruction lends itself to the use of unique instructional strategies in working with such learners as the handicapped, disadvantaged, or culturally deprived. Do so by first identifying at least three unique instructional strategies and then relating that uniqueness to vocational education subjects.

a.

b.

c.

8. List and describe factors which affect the rate at which a psychomotor skill is acquired.

a.

b.

d.

d.

Pre/posttest (continued)

9. Explain the major differences in the pattern of learning found in older people.

Return this test to your instructor.

INSTRUCTIONAL STRATEGIES

ANSWER KEY
MODULE PRE/POSTTEST

Instructor:	Do not reproduce this page in students' booklets. You must retain it for grading and prescriptive purposes. Answers will vary with individuals. A preferred response might be similar to the answer presented.

1. (L1) Definition of the term "instructional strategy."

An "instructional strategy" is a process by which controlled learning experiences are arranged for a learner so that specific objectives may be achieved by the learner. There is no one process known as the instructional strategy; rather there are many processes and one or more of them are called upon to make learning available to the learner.

2. (L1) Identification of various modes of instruction:

a. Structured Class Situations:

Lecture and verbal presentation modes
Discussion--questioning modes
Practice and drill modes
Viewing, listening, answering modes
Problem-solving, heuristic, and discovery modes
Laboratory and Inquiry modes
Modes to develop creativeness
Role-playing, simulation, and games

b. Free-Form and Nonclass Situations:

Play, handling, manipulating, acting
School activities program
Independent learning and self-instructional modes
Community activities
Services provided by the school

c. Unofficial Instructional Program Situations:

Managerial and organizational arrangements of the school
Sociology of the school (social climate)
Images and situation-sets of students with regard to teachers and the school as an institution

3. (L2) Factors which influence and determine the selection of instructional strategies in the learning process: (Answers will vary considerably; the four items described below can serve as guidelines.)

(1) Stated Learning Objectives:

Learning is to take place to satisfy certain stated objectives. Instructional strategies are to help provide the setting for the learning. The instructional strategies selected to make the learning available are dependent upon the learning objectives that are to be achieved. For example, if the learning objective is to present a lesson to nursery school children, then the instructional strategy to be selected would need to be one which lends itself to accomplishing this learning objective.

(2) Principles of Learning.

An understanding of the principles of learning should help one select an appropriate instructional strategy. Knowing the hierarchy upon which learning is built, it would be unwise to select an instructional strategy of making comparative decisions before the learner has had an opportunity to learn basic stimulus-response and chaining activities which provide a basis for making comparative decisions. In other words, the illustration exemplifies the principle that learning should be from the simple to the complex.

(3) Individual Learning Styles.

Because of the individuality of learners, the instructional strategy selected for use with one learner may not be an appropriate one for another. Instructional strategies are to be selected so that learning may be readily available to the learner.

(4) Facilities, Equipment, and Resources.

Certain instructional strategies require special equipment or facilities. Obviously, if these are not available, then those instructional strategies cannot be selected for use with the learner. For example, it may be ideal to train a PBX operator on a switchboard, but if none is available, then training on the "real thing" is impossible. A substitute strategy might be to use a PBM simulator.

(4) (L3) Definition of "Criterion-referenced measurement":

"Criterion-referenced measurement" refers to evaluation through performance that is based on previously stated objectives. The learner generally knows prior to her/his performance that the measurement must be satisfactorily completed to a specified degree of performance.

A specific example of a "criterion-referenced measurement" as it may be used in some phase of vocational education:

Pre/posttest Answer Key (continued)

Answers will vary considerably, but the essence of a "criterion-referenced measurement" is that such a measurement determines whether a student has achieved a specific performance goal; it does not make comparisons between that student's performance and some other student's performance.

An example of a "criterion-referenced measurement" is for a student to type at a rate of at least 35 words per minute for five minutes with no more than an average of two errors per minute. Another "criterion-referenced measurement" might be for the student to be able to judge the individual weight of three hogs within 25 pounds above or below the actual weight of the hogs.

5. (L3) Procedure for evaluating instruction and instructional strategies in vocational education subjects:

The primary goal in evaluating instruction and instructional strategies is to determine whether previously stated objectives for the learning have been met. This goal may be accomplished through "criterion-referenced measurement," or it may take on the form of student/teacher "self-check evaluations." It may also be accomplished through "standardized testing" of the learners. There are other aspects of evaluation that should be taken into consideration. They include such factors as the characteristics of the students being evaluated. Such factors are important because results on a standardized test may indicate a low rating, but when the characteristics of the students being evaluated are examined, it may be seen that the rating represents an enormous effort and performance on the part of the students. So, it is important in the evaluation procedure to look also at the non-cognitive outcomes and social outcomes of the instruction and instructional strategies. This is to say, then, that a standardized test should not be the exclusive medium to be used for evaluation.

6. (L4) Instructional strategies which provide for appropriate directed learning: (Students may have other acceptable answers; those described below can be used as a reference.)

a. Instructional strategy using the <u>lecture</u>. The lecture might be appropriately applied in a classroom situation where a framework of ideas and theory are provided for the student who can later fit in material obtained through independent study. Such a situation might be appropriate in introducing the concept of debits and credits in accounting. The instructor could talk about the purpose and use of debits and credits after which the learners would engage in other learning tasks to augment the information received from the lecture.

b. Instructional strategy using the <u>lesson-demonstration</u>. The lesson-demonstration applied in a classroom situation might be used in agriculture classes where a student is shown how to prune a fruit tree. The instructor could present information in a quasi-lecture procedure along with a demonstration of effective

Pre/posttest Answer Key (continued)

pruning techniques. The demonstration could be followed by participation on the part of the student. Further activity might involve more demonstration on the part of both the teacher and student.

c. Instructional strategy using programmed learning and computer-assisted instruction. Such a strategy might be applied in a classroom situation in learning to express fractions as percents and/or decimals. These situations could be applicable in classes in agriculture, business, home economics, or industrial education.

d. Instructional strategy using independent study. Many classes today are taught on an open-entry, open-exit basis and lend themselves well to the use of independent study. An appropriate situation for using independent study could be a class in business where a student examines in depth the intricacies of itemizing deductions on Federal Income Tax applications.

e. Instructional strategy using role-playing. Such an instructional strategy might be used in a distributive education class where a student is taking the role of a salesperson and wishes to demonstrate to her/his listeners procedures for presenting a product to a potential customer.

f. Instructional strategy using brain-storming. Such a strategy might be used in classes which have a student-centered style. For example, in a woodworking or carpentry class the students might "brain-storm" about the procedure to use in employing energy efficiency in constructing a family home.

7. (L5) Unique instructional strategies applied in vocational education subjects to learners such as the handicapped, disadvantaged, and culturally deprived:

a. The unique instructional strategy of individualized instruction. Not only are individuals different in what they know, but they also vary widely in how they learn and in the various routes they take to accumulate skills and knowledge. Vocational education subjects allow learners to assess what they know and to view what it is they need to learn. Each learner can assess his present level and where it is he should be directing his efforts.

b. The unique instructional strategy of sensitivity training. Our society asks that people work for a living. Many persons--especially disadvantaged and handicapped--find it difficult to fit into that mold. Attitudes and opinions have to be redirected. Vocational education does provide a medium in which meaningful assistance can be given along these lines. Federal funding has been provided to encourage programs which would implement such changes in behavior.

Pre/posttest Answer Key (continued)

c. The unique instructional strategy of leaderless groups. The primary purpose of a leaderless group is to encourage students to solve problems on their own through mutual participation, criticism, and correction. Vocational education provides a climate in which group rapport allows such constructive learning to take place.

8. (L5) The factors listed by the students may vary, but here are four examples of factors and their descriptions:

a. Improvement of basic skill motions. Because of the uniqueness of individuals, no two persons develop their basic skill motions at the same rate. One person is more adept at a motion than another, yet that person may be less adept at another motion. These differences in abilities affect the rate in which a psychomotor skill is acquired.

b. Rate of progress. Progress in a psychomotor skill tends to be rapid initially but then is followed by a period of gentle progress.

c. Plateau. Plateaus, or period of no progress, generally do not occur in simple tasks. In more complex tasks, they may occur at different times for different learners. They tend to result either from subjective factors (such as distractions, lack of incentives, or working conditions) or from factors inherent in acquiring the actual skill itself.

d. Skilled performance. Improvement in acquiring a skill continues with practice, but it gradually decreases as mastery is reached.

9. (L5) Recent research shows that the only difference is that it may take older people a longer time to grasp concepts and to learn skills.

MODULES -- COMMON CORE CURRICULUM FOR VOCATIONAL EDUCATION

Category A: Introduction to Vocational Education

- A-1 History, Philosophy, and Trends in Vocational Education
- A-2 Scope, Function, and Organization in Vocational Education
- A-3 Vocational Legislation
- A-4 Assessing the Job Market and Employment Trends

Category B: Cooperative Relationship

- B-1 Rationale for Cooperative Relationships
- B-2 Advisory Councils
- B-3 Cooperative and Work Experience Programs

Caregory C: Vocational Students

- C-1 Promoting Vocational Education and Recruiting Eligible Students for Vocational Education
- C-2 Assessing Students' Personal Characteristics
- C-3 Guidance and Counseling
- C-4 Assisting Students with Special Needs in Vocational Education Program
- C-5 Assessing the Needs of the Disadvantaged Student
- C-6 Developing Student Leadership Qualities in Vocational Education Programs
- C-7 Student Organizations

Category D: Administration and Supervision

- D-1 Fiscal Management of a Vocational Education Program
- D-2 Writing a Vocational Education Project/Budget
- D-3 Record Keeping in Vocational Programs
- D-4 Conference Leadership
- D-5 Selection, Supervision, and Evaluation of Personnel
- D-6 School Law and Its Relationship to Vocational Education
- D-7 Staff Development
- D-8 Implementation of Change

Category E: Curriculum Design in Vocational Education

- E-1 Developing a Curriculum Design in Vocational Education
- E-2 Applying Learning Theory to Vocational Education
- E-3 Instructional Strategies

Category F: Stages and Structure of Curriculum Development

- F-1 Theories in Curriculum Development
- F-2 Building a Curriculum for Vocational Education
- F-3 Applying Curriculum Specifics to Vocational Education
- F-4 Safety

Category G: Evaluation and Research

- G-1 Evaluation Models
- G-2 Evaluation Procedures for Local Programs
- G-3 Introduction to Research Procedures in Vocational Education
- G-4 Research Design in Vocational Education
- G-5 Development of a Research Proposal in Vocational Education